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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,762	10/29/2003	Rentaro Kato	244555US3	5290

22850 7590 04/18/2005

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER

WILLIAMS, THOMAS J

ART UNIT PAPER NUMBER

3683

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/694,762

**Applicant(s)**

KATO ET AL.

**Examiner**

Thomas J. Williams

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-16 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-3 and 6-16 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 28, 2005 has been entered.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2,681,800 to Taylor in view of Inoue et al. (Yamagata Shinbun Publishing Company, First in the World, Development of New Material).

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Re-claims 1, 3 and 7-10, Taylor teaches an impact absorber for a vehicle, comprising: a housing 70 has an impact receiving member 17 with a hollow portion, the housing is formed of a rigid material, the housing is capable of being fixed to a bone structural member of a vehicle (see figure 5), the receiving member is configured to plastically deform upon impact; an impact energy absorbing member 13 is disposed in the hollow portion of the housing, the impact member is formed from a plastic, see column 4 lines 56-62; the impact energy absorbing member has a surface 16 facing an impact input direction and contacts closely with an inner surface of the impact receiving member 17; the impact energy absorbing member is pre-compressed in the impact input direction within the housing, see column 4 lines 69-74 (the spring is interpreted as element 13, which is taught as being pre-loaded). However, Taylor fails to teach the specific properties of the plastic, or impact energy absorbing member.

Inoue et al. teach a super polymer plastic capable of use as an impact absorber, as known in the art. The plastic exhibits a tensile breaking elongation greater than 200%, a yield strength of greater than 20 MPa with respect to a predetermined strain and tensile elastic modulus of greater than 400 MPa, as stated in paragraph 16 of the instant application. It would have been obvious to one of ordinary skill in the art to have provided the device of Taylor with the super polymer plastic taught by Inoue et al., thus providing the device of Taylor with superior impact absorbing capabilities. The teachings of Inoue et al. address claims 3 and 7-10.

Re-claim 2, the housing is interpreted as part of the bone structural member.

Re-claim 6, Taylor is silent regarding the dimensions of the housing, specifically having a thickness of 2mm or less. It would have been obvious to one of ordinary skill in the art as a matter of design choice when having chosen a thickness for the housing of 2 mm or less, since

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applicant has not disclosed that having the housing with this thickness solves any stated problem or is for any particular purpose, and it appears that the housing of Taylor would have performed equally well with a thickness of 2mm or less, furthermore, minimizing the thickness of the housing would have minimized both the weight and size of the mount structure.

Re-claim 11 and 12, the impact receiving member is interpreted as a crush box, and is cylindrical in shape, second portion (such as element 21) has a larger diameter than a first portion (interpreted as 17).

Re-claim 14, the impact receiving member is a cylinder shaped housing (concave portion houses a portion of the impact energy absorbing member 13), the housing is fastened coaxially outside a impact beam (generally represented by element 21).

Re-claim 15, the impact receiving member has a protrusion with a U-shaped cross sectional shape (concave portion), the impact absorbing member has a U-shaped cross sectional shape and is nested within the protrusion, see figure.

Re-claim 16, the impact energy absorbing member is configured to deform plastically upon impact.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor in view of Inoue et al. as applied to claims 1 and 12 above, and further in view of US 3,741,560 to Schaller.

Taylor fails to teach the specific structure used to connect the impact absorber to a bumper and vehicle body. Schaller teaches an impact absorber having a first end attached to a bumper stay and a second end being a ring shaped flange. The structure is cylindrically shaped having a stepwise increase in diameter from a first end to a second end. It would have been obvious to one of ordinary skill in the art to have utilized the teachings of Schaller regarding the

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connecting structure when having attached the impact absorber of Taylor to a vehicle and bumper, thus providing a means of attaching the impact absorber to a vehicle.

***Response to Arguments***

6. Applicant's arguments with respect to claims 1-3 and 6-10 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Carbone et al. and Uchida et al. each teach an impact absorber utilizing a plastically deformable impact energy absorbing member surrounded by a housing.

8. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Thomas Williams whose telephone number is 571-272-7128. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Bucci, can be reached at 571-272-7099. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

TJW

April 6, 2005

THOMAS WILLIAMS  
PATENT EXAMINER

Thomas Williams

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4-6-05